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FACTORS AFFECTING CASH HOLDING MODERATED BY FIRM SIZE IN NON-CYCLICALS SECTOR COMPANIES

Ophilia Aurelia[1], Henny Wirianata[2*]

[1,2] Faculty of Economics and Business, Universitas Tarumanagara, Jakarta, Indonesia
Email: ophilia.125210010@stu.untar.ac.id, hennyw@fe.untar.ac.id

*Corresponding Author

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ABSTRACT

Cash holding is an important aspect in order to ensure the financial stability of a company. An excessive or insufficient amount of cash holding can lead to financial problems and disrupt the stability of a company. Therefore, it is essential for a company to maintain its level of cash holding in an optimal level. This research seeks to explore the influence of profitability, liquidity, net working capital, capital expenditure, also firm size on cash holding considering the moderating role of firm size in consumer non-cyclicals firms registered on Indonesia Stock Exchange (IDX) from 2021-2023 period. Secondary financial data is employed and chosen through purposive sampling method. Data were processed using Microsoft Excel 2021 and tested using Eviews version 12. The outcomes determined that profitability, liquidity, as well as firm size positively impacts cash holding. Meanwhile, it is discovered that a inverse relationship exists among net working capital and cash holding, and capital expenditure does not impact cash reserves of a company. The moderation test analysis in this study imply that size of a firm is qualified in moderating the impact of profitability and net working capital in determining cash reserves. Conversely, size of a firm does not have the capacity in moderating the influence of liquidity and capital expenditure in determing cash holding.

Keywords: *cash holding, firm size, effect, moderation*

1. INTRODUCTION

To thrive in the fast-paced business environment, companies must constantly evolve and innovate in order to survive and maintain competitiveness. The primary goal of a company is to earn and maximize profit. By earning and focusing on profit, companies can ensure their financial stability and provide value to stakeholders.

Davidson and Rasyid (2020) mentioned that cash can be categorized as a highly liquid and vital asset in the financial structure. Cash possesses a substantial influence on the operation of a company. Companies utilize cash to buy goods, pay salaries and wages, pay operating expenses, and expand businesses. Companies also allocate cash to invest and pay dividends to their shareholders.

Widiyarti *et al*. (2024) explained that the amount of cash possessed by a company is crucial because it directly impacts the company's financial stability and operational efficiency. A sufficient level of cash holding ensures the company to meet its short-term liabilities, such as paying salaries and payables. Moreover, cash provides the flexibility for a company to seize unexpected advantages. On the contrary, excessive amount of cash reserves can negatively affects the company's financial health, such as facing inflation risk and missing out potential gains. For example, idle cash of a company could have been used to invest in bonds or investment to earn higher returns or it could have been used to pay high-interest debts in order to reduce interest expenses and improve the profitability level of a company. Therefore, it is essential for a company to ensure an adequate level of cash holding.

According to agency theory, individuals are motivated by their own self-interest. This often leads to conflict of interest between agent (manager) and principal (shareholders). Mawarni and Widodo (2023) explained that manager is assigned to manage the assets and resources owned by the company to generate profits, which then will be distributed to shareholders as a return of their investment to the company. Agency problems often arise due to different interest between managers and shareholders. Managers tend to focus on maximizing profits to earn bonuses and rewards, meanwhile the shareholders aim for high dividends in return of their investments. The difference of main goals between managers and shareholders is able to impact the decision making in a company. Managers tend to retain a higher level of cash. This decision can reduce the return distributed to shareholders.

According to Cliff and Yanti (2024), in the trade-off theory, companies have to maintain optimal cash level in order to gain more benefits from retaining cash. If a company retains cash higher than the optimal level, then opportunity cost will arise. The company will miss out potential opportunity to earn gain by retaining cash instead of investing it. On the other hand, if the company lacks cash, the company has higher risk for financial difficulties for not being able to meet its short-term liabilities. Hence, having an optimal amount of cash holding in a company is essential to maintain financial stability.

As stated by Wirianata and Viriany (2023) pecking order theory is a theory that a company prefers to use internal financing instead of external financing. The primary motive of a company retains cash is to minimize reliance of external financing. By maintaining a sufficient amount of cash, companies can avoid the costs and risks of getting a loan or issuing shares due to market volatility.

Nainggolan and Saragih (2020) stated that cash holding is a readily convertible asset kept by a company to support the daily operational activities of a company. These funds serve as a readily available source. Excessive cash holding in a company can be harmful, as it will be idle funds that does not generate profits. Meanwhile, insufficient cash holding can also lead to financial difficulties, including shortage funds for operations and meeting short-term obligations. Therefore, maintaining a sufficient and appropriate amount of cash holding is crucial for a company to gain potential profits, such as trade discounts.

Profitability and Cash Holding

Profitability is a key measurement for financial performance. It illustrates a company's earning power. Higher profitability leads to more stable and reliable cash flows. Consequently, companies with steady cash flow have better a higher possibility to increase their cash reserves.

Ariel and Susanti (2024), Vuković, *et al*. (2022), Ekadjaja, *et al*. (2022), also Davidson and Rasyid (2020) identified a strong and positive correlation involving profitability and cash holding. Meanwhile, Azia and Naibaho (2022) discovered that profitability has a negatively influence cash holding and Wirianata and Viriany (2023) in their research concluded that profitability exerts insignificant influence over cash reserves.

H1: Profitability exerts a positive effect on cash holding.

Liquidity and Cash Holding

Liquidity measures company's capacity to settle its near-term debts with liquid assets owned by a company. Adequate cash holding is essential to maintain the liquidity of a company.

Insufficient amount of cash holding can increase the likelihood of a company's failure to fulfill its immediate financial needs and operating expenses.

In studies conducted by Wirianata and Viriany (2023) and Davidson and Rasyid (2020), the authors discovered that liquidity is directly related to the amount of cash reserves. Conversely, Shabbir, *et al*. (2016) determined that higher liquidity is linked to decreased levels of cash holdings. Adiputra and Nataherwin (2022) in their study concluded that liquidity possesses a negligible impact on cash holding.
H2: Liquidity exerts a positive effect on cash holding.

Net Working Capital and Cash Holding
Net working capital constitutes as a key metric utilised in measuring the liquidity and capability of a company to cover its immediate financial needs. In measuring net working capital, cash and cash equivalents are excluded. It has the capability of replacing the need for cash in companies due to the liquidity of net working capital.

Azia and Naibaho (2022) and Adiputra and Nataherwin (2022) in their study discovered that net working capital positively influence the degree of cash holding. In contrast, Widiyarti, *et al*. (2024) and Wirianata and Viriany (2023) discovered that rising net working capital results in a decreased amount of cash. Meanwhile, Cliff and Yanti (2024) in their study concluded that net working capital does not impact the cash reserves.
H3: Net working capital exerts a negative effect on cash holding.

Capital Expenditure and Cash Holding
Capital expenditure is spending made by a company that is expected to obtain benefits for a company for more than one year period. Capital expenditure typically refers to expenses made by a company to increase useful life of fixed assets. Capital expenditure can decrease cash reserves of a company due to cash utilized for these expenses.

Cindy, *et al*. (2023) discovered that capital expenditure has a positively impact cash holding. Meanwhile, Cliff and Yanti (2024), Ariel and Susanti (2024), and Ekadjaja, *et al*. (2022) in their study discovered that capital expenditure negatively influence cash holding. Moreover, the outcomes in the research done by Mawarni and Widodo (2023) shows that capital expenditure does not influence cash holding.
H4: Capital expenditure exerts a negative effect on cash holding.

Firm Size and Cash Holding
Firm size can be used as a measure to determine the magnitude or scale of a firm. Total assets were employed as a proxy for firm size. Larger firms are likely to have higher cash holding compared to smaller firms, due to larger amount of resources, needs, and obligations.

Cliff and Yanti (2024), Cindy, *et al*. (2023), and Alicia, *et al*. (2020) recognized that the magnitude of a firm positively impacts cash holding. In comparison, Vuković, *et al*. (2022) discovered that firm size affects negatively on cash holding. Ariel and Susanti (2024), Wirianata and Viriany (2023), Ekadjaja, *et al*. (2022), and Davidson and Rasyid (2020) determined that firm size exerts an insignificant influence in relation to cash reserves of a company.
H5: Firm size exerts a positive effect on cash holding.

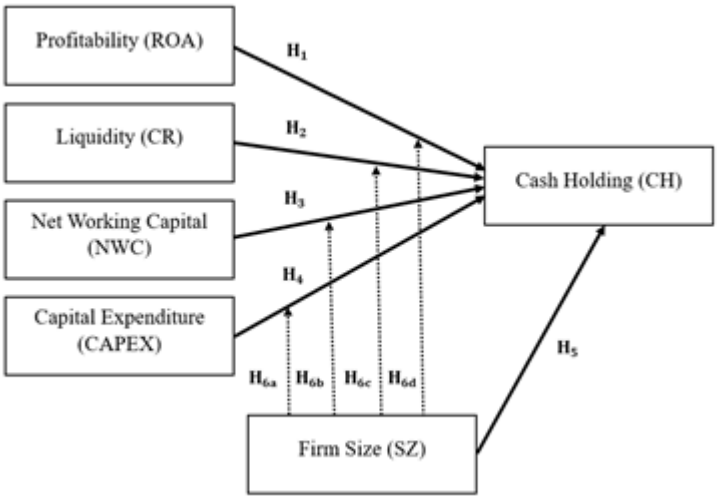

Figure 1. Research Model

Larger companies often have greater financial stability than smaller companies. By having more and better access to resources, larger firms have a tendency to generate higher cash flows. This leads to more reliable and steady cash flows. Moreover, larger firms might also adopt a more conservative financial approach, including retaining more cash as a precautionary measure against unexpected events. Hence, larger companies typically hold more cash reserves.

Cang, *et al*. (2024) in their research indicated that company size lacks the capacity to moderate the correlation among liquidity, net working capital, as well as capital expenditure individually upon cash reserves, while the scale of a firm is qualified to moderate the connection between profitability and cash holding. Wirianata and Viriany (2023) discovered that firm size has the capability in moderating the impact of profitability and liquidity upon cash holdings. However, the size of a firm is not capable in moderating the correlation between net working capital and company's cash reserves.

Mawarni and Widodo (2023) determined that the magnitude of a firm lacks the ability to moderating the connection between capital expenditure and cash holding. In their study, Azia and Naibaho (2022) discovered that the size of a company is capable of moderating the connection between net working capital and cash holding, but it failed in moderating relationship among profitability and cash holding. Moreover, Rahman (2021) recognized that size of a firm is qualified in moderating the impact of profitability as well as net working capital regarding company's cash reserves. However, the scale of a firm is not qualified in moderating the correlation between liquidity and cash reserves.

H6: Firm size has the capability in moderating the effect of profitability, liquidity, net working capital, as well as capital expenditure on cash holding.

2. RESEARCH METHOD

This research employs financial figures collected from non-cyclical firms included in the IDX for the years 2021 to 2023. Purposive sampling method is utilised in the sample selection of this research. The selection criteria for this study are consumer non-cyclicals companies registered continuously on the IDX in 2021-2023, whose financial reports are denominated in Rupiah, and have the required data for this study.

According to the previously stated criteria, a sample of 54 companies with research of three years was obtained. Therefore, 162 research data is utilised in this study. The data were processed using Microsoft Excel 2021 and tested with Eviews version 12. Table 1 below provides a summary of the operationalization and measurements of variables employed in this study.

Table 1. Summary of the Operationalization and Measurements of Variables

Variables	Measurement	Scale	References
Cash Holding (CH)	$CH = \frac{\text{Cash and Cash Equivalent}}{\text{Total Assets}}$	Ratio	Wirianata and Viriany (2023)
Profitability (ROA)	$ROA = \frac{\text{Net Income}}{\text{Total Assets}}$	Ratio	Ekadjaja, *et al.* (2021)
Liquidity (CR)	$CR = \frac{\text{Current Assets}}{\text{Current Liabilities}}$	Ratio	Davidson and Rasyid (2020)
Net Working Capital (NWC)	$NWC = \frac{\text{Current Assets} - \text{Current Liabilities} - \text{Cash and Cash Equivalent}}{\text{Total Assets}}$	Ratio	Wirianata and Viriany (2023)
Capital Expenditure (CAPEX)	$CAPEX = \frac{\text{Fixed Assets}_t - \text{Fixed Assets}_{t-1}}{\text{Total Assets}}$	Ratio	Mawarni and Widodo (2023)
Firm Size (SZ)	SZ = Ln Total Assets	Ratio	Ariel and Susanti (2024)

There are two analyses employed, which are multiple regression and moderation regression analysis illustrated by equations below:

(1) $CH = \alpha + \beta_1 ROA + \beta_2 CR + \beta_3 NWC + \beta_4 CAPEX + \beta_5 SZ + \varepsilon$

(2) $CH = \alpha + \beta_1 ROA + \beta_2 CR + \beta_3 NWC + \beta_4 CAPEX + \beta_5 SZ + \beta_6 ROA*SZ + \beta_7 CR*SZ + \beta_8 NWC*SZ + \beta_9 CAPEX*SZ + \varepsilon$

3. RESULTS AND DISCUSSIONS

The test of normality conducted exhibited a probability level of 0.114336, which exceeds 0.05. The statistical analysis suggests that the data exhibits a normal distribution pattern.

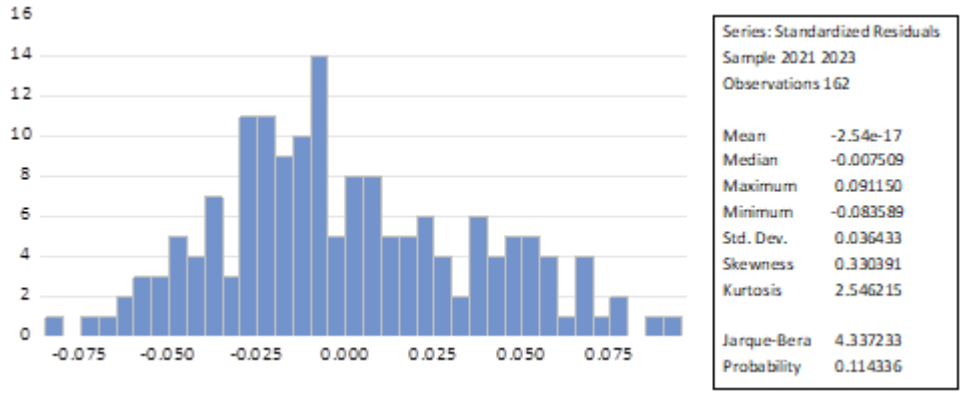

Figure 2. The Result of Normality Test
Source: Data Results Using Eviews Version 12

The multicollinearity test result proved that there was no indications of multicollinearity proved by the correlation coefficient results that were below 0.80. Consequently, all variables are appropriate and there were no symptoms of multicollinearity.

Table 2. The Result of Multicollinearity Test
Source: Data Results Using Eviews Version 12

	ROA	CR	NWC	CAPEX	SZ
ROA	1.000000	0.220544	0.171465	-0.311109	0.171976
CR	0.220544	1.000000	0.533455	0.087057	0.022424
NWC	0.171465	0.533455	1.000000	0.204048	-0.029683
CAPEX	-0.311109	0.087057	0.204048	1.000000	0.217450
SZ	0.171976	0.022424	-0.029683	0.217450	1.000000

The autocorrelation tested by Durbin-Watson revealed statistic value of 0.836845. This value is between -2 and +2. Hence, the results suggest no autocorrelation problem detected in this research.

Table 3. The Result of Autocorrelation Test
Source: Data Results Using Eviews Version 12

Durbin-Watson stat	0.836845

Glejser Test was employed to examine heteroscedasticity. The probability level of Obs*R-squared was 0.1794 (> 0.05). This indicates that heteroscedasticity was not evident. Therefore, all independent variables are appropriate to be used in this study.

Table 4. The Result of Heteroscedasticity Test
Source: Data Results Using Eviews Version 12

Heteroskedasticity Test: Glejser			
Null hypothesis: Homoskedasticity			
Obs*R-squared	12.64314	Prob. Chi-Square(9)	0.1794

Chow test showed a probability of 0.0000 for both equations, suggested that Fixed Effect Model (FEM) is more suitable. P-value from Hausman Test were 0.0000 for equation 1 and 0.0004 for equation 2. Since both equation results were below 0.05, Fixed Effect Model (FEM) was selected for this study.

Table 5. The Result of Chow Test and Hausman Test
Source: Data Results Using Eviews Version 12

Description	**Chow Test (Prob. of Cross-section Chi-square)**	**Hausman Test (Prob. of Cross-section random)**
Equation 1	0.0000	0.0062
Equation 2	0.0000	0.0001

According to the multiple regression model test results, the equation for this study is as specified below:

$$CH = -0.192002 + 0.138077ROA + 0.043694CR - 0.155446NWC + 0.038983CAPEX + 0.006758SZ + \varepsilon$$

The result of F test demonstrates a probability of 0.000000. This signals that probability, liquidity, net working capital, capital expenditure, also firm size simultaneously and significantly impacts cash reserves of a company.

The number of adjusted R-squared is 0.802364. This serves as an indication that independent variables in this study, composed of profitability, liquidity, net working capital, capital expenditure, as well as firm size are capable of explaining the dependent variable, cash

holding around 80.24%. A remaining number of 19.76% is attributable to the factors outside this study.

Table 6. The Result of Multiple Regression Test
Source: Data Results Using Eviews Version 12

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.192002	0.057492	-3.339609	0.0010
ROA	0.138077	0.031527	4.379655	0.0000
CR	0.043694	0.001925	22.70395	0.0000
NWC	-0.155446	0.021233	-7.320871	0.0000
CAPEX	0.038983	0.021056	1.851405	0.0660
SZ	0.006758	0.001998	3.383161	0.0009
R-squared	0.808501	F-statistic		131.7255
Adjusted R-squared	0.802364	Prob(F-statistic)		0.000000

Probability on Cash Holding

As seen on table 5, the T-test displays a coefficient value of profitability of 0.138077, with significance degree of 0.0000, which is smaller than 0.05. This suggest that companies with higher profitability, as measured by ROA, typically hold more cash. Therefore, the first hypothesis, which stated that profitability positively influence cash holding is accepted.

The result in this research suggests that companies with higher level of profitability typically have larger cash reserves. Based on Pecking Order Theory, firms with higher level of profitability often utilize internal financing first than external financing. The conclusions of this study align with Ariel and Susanti (2024), Vuković, *et al*. (2022), Ekadjaja, *et al*. (2022), and Davidson and Rasyid (2020). However, the findings of this study contradict with Azia and Naibaho (2022) who found profitability negatively impacts cash holding and Wirianata and Viriany (2023) who found profitability exerts no influence on cash holding,

Liquidity on Cash Holding

A direct relationship among liquidity and cash holding exists, proven by the coefficient number of 0.043694 with a probability degree of 0.0000, and the empirical evidence supports the third hypothesis. The outcomes illustrate that when liquidity increases, then the amount of cash holding will also increase significantly. The findings suggest that companies tend to maintain an adequate cash reserves in aim to fulfill its current liabilities and commitments.

These results align with study performed by Wirianata and Viriany (2023) and Davidson and Rasyid (2020). The results obtained from this study contradict with study performed by Shabbir, *et al*. (2016) who determined an inverse correlation between liquidity and cash holding. Moreover, these results are inconsistent with Adiputra and Nataherwin (2022) who found that liquidity exerts negligible influence on cash reserves.

Net Working Capital on Cash Holding

Coefficient value regarding net working capital in this study is -0.155446 with a probability value of 0.0000. This signfies an inverse relationship occurs among net working capital and cash holding. Hence, this analysis confirms the third hypothesis. The results imply that a rise in net working capital leads to decreased cash holdings. According to Wirianata and Viriany (2023), a high level of net working capital can be effectively used to optimize operational activities and gain profits. Moreover, a substantial amount of net working capital provides flexibility for a company to quickly convert non liquid assets into cash if there is an

immediate need of cash. This allows firm to reduce its reliance on a large number of cash holding.

The result in this study are compatible with Wirianata and Viriany (2023) and Widiyarti, *et al*. (2024). Meanwhile, the findings in this study are not compatible with Azia and Naibaho (2022) and Adiputra and Nataherwin (2022) who identified a direct correlation among net working capital and cash holding, also with Cliff and Yanti (2024) who found that net working capital exerts an insignificant bearing upon cash holding.

Capital Expenditure on Cash Holding

The outcomes revealed that capital expenditure and cash holding are positively related, supported by the coefficient of 0.038983. However, the degree of significance is 0.0660. Therefore, no correlation exists between capital expenditure and cash holding and the fourth hypothesis is rejected. According to Cang, *et al*. (2024), considering that capital expenditure does not impact the cash holding, this indicates that there are expenses financed by external sources. Hence, the management of a company does not need to lower the amount of cash reserves.

These results agree with study done by Mawarni and Widodo (2023). However, the findings in this study does not correspond Cindy, *et al*. (2023) who determined a positive association between capital expenditure and cash holding, also Cliff and Yanti (2024), Ariel and Susanti (2024), and Ekadjaja, *et al*. (2022) who discovered capital expenditure exerts a substantially negative influence upon cash reserves.

Firm Size on Cash Holding

Coefficient value regarding firm size is 0.006758 with probability of 0.0009, which is below 0.05. This suggests that a strong positive correlation occurs between firm size and cash holding. As a result, the fifth hypothesis is accepted. Larger firms typically have greater resources and market power, allowing them to maintain higher amount of cash holding.

This study corresponds to Cliff and Yanti (2024), Cindy, *et al*. (2023), and Alicia, *et al*. (2020). On the other hand, this study do not corresponds to the study performed by Vuković, *et al*. (2022) which determined a negative influence of firm size upon cash holding. Moreover, Ariel and Susanti (2024), Wirianata and Viriany (2023), Ekadjaja, *et al*. (2022), and Davidson and Rasyid (2020) who discovered that there is no strong association between firm size and cash holding.

The moderation regression equation of given the outcomes of the analysis is as follows:

$$CH = -0.194938 + -3.213016ROA + 0.090247CR + 0.514417NWC + 0.369711CAPEX + 0.006516SZ + 0.124174ROA*SZ - 0.001670CR*SZ - 0.023779NWC*SZ - 0.014678CAPEX*SZ + \varepsilon$$

Table 7. The Result of Moderation Regression Test
Source: Data Results Using Eviews Version 12

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.194938	0.089959	-2.166970	0.0318
ROA	-3.213016	0.493608	-6.509242	0.0000
CR	0.090247	0.042625	2.117231	0.0359
NWC	0.514417	0.295172	1.742769	0.0834
CAPEX	0.369711	0.453987	0.814364	0.4167
SZ	0.006516	0.003147	2.070723	0.0401
ROA_SZ	0.124174	0.018345	6.768772	0.0000
CR_SZ	-0.001670	0.001490	-1.120893	0.2641
NWC_SZ	-0.023779	0.010391	-2.288404	0.0235
CAPEX_SZ	-0.014678	0.017600	-0.833961	0.4056
R-squared	0.859324	F-statistic		103.1661
Adjusted R-squared	0.850994	Prob(F-statistic)		0.000000

The findings suggest that firm size plays a significant moderating impact in the connection between profitability and cash holding, as evidenced by the coefficient number of 0.124174 and significance degree of 0.0000, which is below 0.05. This study found negative relationship between the profitability and cash holding turned into a positive association when the moderating impact of firm size was incorporated. Hence, the sixth hypothesis which stated that firm size is capable in moderating the correlation between profitability and cash holding is accepted. The moderation test results are consistent with Cang, *et al*. (2024), Wirianata and Viriany (2023), and Rahman (2021). However, the outcomes in this study differs from study performed by Azia and Naibaho (2022) whose research revealed that firm size is not capable of moderating the correlation between profitability and cash holding.

This study found that firm size does not have the ability in moderating the correlation between liquidity and cash holding of a company, demonstrated by the coefficient number of -0.001670 with a significance degree of 0.2641, that is over 0.05. Therefore, the sixth hypothesis that stated firm size has the capability to moderate the influence the relationship between liquidity on cash holding is rejected. The moderation test results support the study performed by Cang, *et al*. (2024) and Rahman (2021). However, this finding does not align with Wirianata and Viriany (2023) who found that firm size has the capacity in moderating the association between liquidity and cash holding.

Size of a firm is qualified in moderating the correlation among net working capital and cash holding, as supported by coefficient number of -0.023779 with significance degree 0.0235, which is below 0.05. The sixth hypothesis of this study which stated that firm size is capable to moderate the association among net working capital and cash holding is accepted. The outcomes are in line with Azia and Naibaho (2022) and Rahman (2021) who found net working capital has the capacity in moderating the association among net working capital and cash holding. This contradicts with Cang, *et al*. (2024) and Wirianata and Viriany (2023) who discovered that firm size is not qualified in moderating the connection between net working capital and cash holding.

The findings displayed a coefficient of -0.014678 and a significance of 0.4056. Therefore, size of a firm is not qualified in moderating the correlation between capital expenditure and cash holding. Thus, the sixth hypothesis that stated the scale of a firm is qualified in moderating the correlation of capital expenditure and cash holding is declined. The findings in this study correspond to study performed by Cang, *et al*. (2024) also Mawarni and Widodo (2023).

The managerial implications of this research focus on the importance of effective cash management in aim to maximize firm value. Management should plan comprehensive cash management strategies that align with the firm's specific needs and industry dynamics to maintain financial health of a company. Moreover, management need to monitor and control the utilization of cash to ensure it is used productively.

4. CONCLUSIONS AND SUGGESTIONS

Given the findings of this experiment, it appears that profitability, liquidity, and firm size have positively impacts cash reserves. However, it was discovered that an inverse correlation among net working capital and cash holding, and capital expenditure does not influence cash holding.

Larger firms with high level of profitability and liquidity tend to have more and better access to resources to increase their cash reserves. In contrast, if net working capital increase, then cash holding will most likely to decrease. This happens due to the flexibility provided by net working capital to be swiftly transformed into cash. Capital expenditure does not affect cash holding because there are expenses in company financed by external financing. Therefore, the company does not have to increase or reduce the level of cash reserves.

This research found that the size of a firm is capable of moderating the impact of profitability as well as net working capital on cash reserves. Meanwhile, size of a firm is not capable to moderate the correlation of liquidity and capital expenditure individually on cash holding. The outcomes suggest that firm size, changes in profitability, and changes in net working capital are crucial determinants of cash holdings.

The limitations of this research are the data were only taken from three years period and there is around 19.76% other variables that affect cash holding, but not tested in this study. Further study regarding cash holding can include more period and variables to be analyzed. Moreover, future research of cash holding can involve the digital transformation aspects in the business industry that may affect the management's decision regarding cash holding.

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